

Notice of Allowability

Application No.

10/629,421

Examiner

Sanza L. McClendon

Applicant(s)

MAIER ET AL.

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/9/06.
2. ☒ The allowed claim(s) is/are 1 + 3 - 13.
3. ☒ The drawings filed on 29 July 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

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DETAILED ACTION

Response to Amendment

1. In response to the Amendment received on January 9, 2006, the examiner has carefully considered the amendments. The claim rejection under 35 U.S.C. § 112, 2nd paragraph for claims 1 and 4 have been overcome by the amendment and has hereby been withdrawn for consideration.

Response to Arguments

2. Applicant's arguments, see Remarks/Arguments, filed January 9, 2006, with respect to claims 1, 5, 7-9 and 13 have been fully considered and are persuasive. The rejection of claims 1, 5, 7-9, and 13 under 35 USC 102(b) as being anticipated by or, in the alternative, under 35 USC 103(a) as obvious over Shichman et al (3,965,055) as evidenced by Halasa et al (5,627,237) has been withdrawn.

Allowable Subject Matter

1. ¹⁻³⁻¹³ Claims 1-13 are allowed.
2. The following is an examiner's statement of reasons for allowance: The prior art fails to teach a process of providing a rubber composition for a component of an articles of manufacture comprising applying radio frequencies in the range from about 0.5 to about 100 MHz or microwave frequencies in the range from about 900 to 930 MHz or 2300 to about 2600 MHz to internally preheat an unvulcanized, silica-rich diene rubber composition comprising the composition as found in instant claim 1, wherein the polymer or elastomer having a Tg or Tm of at least 0 °C comprising at least one of a trans 1,4-polybutadiene polymer, 3,4-polyisoprene elastomer, styrene/butadiene copolymer elastomer as defined in claim 1, a isoprene/butadiene copolymer as defined in claim 1, a natural cis 1,4-polyisoprene rubber and polystyrene polymer as found in the claims with at least one diene-based elastomer having a Tg or Tm lower than 0 °C. Wherein said rubber composition has a temperature below 35 °C in at least one directed high frequency station to thereby internally heat said rubber

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composition by directed high frequency energy to a temperature of at least about 40 °C to a max. of about 90 °C.

The closest prior art of record teaches use of microwave and radio frequencies in rubber compositions. For instance 3,965,055 to Shichman et al teaches using microwave energy with a frequency range of 10^9 to 10^{10} cycles/second (10,000 to 100,000 MHz) to preheat a rubber composition to a temperature of about 40 °C before curing; however the rubber composition fails to be a silica reinforced composition (silica-rich) as described above and the frequency range is too high. Shichman et al teaches using an elastomer/rubber blended with a thermoplastic resin. 5,854,351 to Maier et al teaches rubber compositions comprising trans 1,4-polybutadiene and a processing oil, wherein said composition is internally preheated to a temperature of at least 40 °C using electromagnetic radiation having a frequency in a range of 2 to 80 MHz. Maier et al teaches heating the trans 1,4-polybutadiene to the specified temperature to enable the polymer to be better processable, i.e. without gelation. Additionally Maier et al teaches said polybutadiene processed in this way can be blended with other rubbers/elastomers. However, Maier et al fails to specifically teach processing a silica-rich rubber composition comprising at least one other polymer or elastomer having the claimed Tg or Tm in the manner as specifically found in the instant claims. The prior art as a whole fails to explicitly teach and/or fairly suggest a composition as claimed with the claimed properties and heating to an internal temperature as specified in the claims with radio waves and/or microwaves having the claimed frequencies. Additionally, while the prior art teaches similar silica rich compositions as found in the claims, the prior art fails to fairly suggest internally preheating the *composition* to a temperature as suggested in the claims with the claimed high frequency energy. Therefore, the invention appears to be distinguished over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L. McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sanza L McClendon

Examiner

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James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700